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On the Duration of Life of Sovereigns. By WILLIAM A. GUY, M.B., Cantab.; Fellow of the Royal College of Physicians, Professor of Forensic Medicine, King's College, Physician to King's College Hospital, Honorary Secretary to the Statistical Society, &c.

[Read before the Statistical Society of London, 21st December, 1846.]

THE present communication forms the complement of my inquiries into the duration of life among the higher classes. The results obtained in a former Essay*, though based on a small number of facts, rendered it probable that the members of Royal Houses, and Kings more especially, were shorter lived even than the aristocracy and gentry of England; the average ages of the four classes—Kings of England, Members of Royal Houses, Aristocracy, and Gentry—forming an ascending scale, represented by the round numbers 64, 69, 72, and 74.

In order to complete this interesting series of inquiries, and to establish the true duration of life of the highest class on the most secure basis, I have extracted from the volumes of the “*Art de Vérifier les Dates*,” an historical work of approved accuracy, the ages at death of all who, under whatever title, have borne rule as independent sovereigns, in any part of the world, and at any period of the world's history. I have also added the ages at death of sovereigns who have died since the publication of that work.

At present I propose to limit my inquiries to those who have borne rule within the Christian era; and in order to arrive at results admitting of comparison with those obtained in the case of the English Aristocracy, I have excluded all who have died by accident, violence, or poison, and all who have fallen in battle. The large majority are hereditary Sovereigns, but a small proportion consists of elective Sovereigns, and of such as attained to power by successful rebellion. Of the thirteen Emperors of Rome, for instance, who died natural deaths, one only was the son, and one the brother, of his predecessor, four were elected, six adopted, and one was an usurper. All these, however, have been admitted into the Tables, and as they will be found, on the average, to have attained a more advanced age than any group of hereditary monarch†, it is obvious that their admission has a tendency to increase the value of life. On the other hand, elective Sovereigns who have attained to their elevated rank at very advanced periods of life, as the Popes, the Grand Masters of the Knights of St. John, and the Doges of Venice, have been excluded, as tending unduly to increase the average duration of life, when compared with such a class as the English Aristocracy. Where, then, the rule of admitting only hereditary Sovereigns has been departed from, it has obviously had the effect of giving an increased value to the life of the entire class, acting somewhat in the same way as new creations in the peerage and baronetage.

* On the Duration of Life among the English Gentry, &c. Read January 19, 1846.

† The average ages of twenty-one English Kings, who died natural deaths, and attained the respective ages of 31 and upwards, 41 and upwards, and 51 and upwards, were 59·19, 60·45, and 64·12; but the average ages of thirteen Roman Emperors, calculated in the same manner, were respectively 65·54, 67·75, and 70·18.

A system of rigorous exclusion would certainly have lowered the value of life, at the same time that it would have diminished the number of facts from which the average is deduced.

As my object at present is to compare the class of Sovereigns with the classes examined in the two former Essays, I shall adopt, as nearly as possible the same arrangement, presenting, in the first place, the facts from which the averages are deduced, arranged by single years, and by intervals of five and ten years, and then proceeding to display the principal results, absolute and comparative, in tabular forms.

The following table exhibits the deaths occurring at every year of life, from 21 years of age upwards, in 1,440 Sovereigns, who have borne rule at different periods of the Christian era, and in different parts of the world :—

TABLE I.

Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths	Age.	No. of Deaths
21....10		32....14		43....24		54....19		65...34		76....19		87....3		98....0			
22....9		33....21		44....22		55....32		66....41		77....15		88....2		99....0			
23....11		34....16		45....35		56....43		67....22		78....17		89....1		100....1			
24....14		35....17		46....23		57....28		68....26		79....5		90....4		101....1			
25....16		36....14		47....21		58....33		69....29		80....26		91....0		....		
26....17		37....19		48....30		59....31		70....33		81....6		92....2		....		
27....10		38....22		49....31		60....54		71....22		82....10		93....1		....		
28...20		39....20		50....25		61....30		72....18		83....5		94....0		....		
29....12		40....32		51....25		62....33		73....19		84....8		95....2		....		
30....17		41....9		52....34		63....33		74....19		85....1		96....0		....		
31....20		42....14		53....39		64....32		75....12		86....4		97....1		....		

The following tables give the numbers of deaths for periods of five and ten years, together with the per centage proportions for the same periods.

TABLE II.

Age.	No. of Deaths	Per cent.	Age.	No. of Deaths.	Per cent.
21—25	60	4·16	61—65	162	11·25
26—30	76	5·28	66—70	151	10·49
31—35	88	6·11	71—75	90	6·25
36—40	107	7·43	76—80	82	5·70
41—45	104	7·22	81—85	30	2·08
46—50	130	9·03	86—90	14	0·97
51—55	149	10·35	91—95	5	0·35
56—60	189	13·12	96 & upwards	3	0·21

TABLE III.

Age.	No. of Deaths.	Per cent.	Age.	No. of Deaths.	Per cent.
21—30	136	9·44	61—70	313	21·74
31—40	195	13·54	71—80	172	11·95
41—50	234	16·25	81—90	44	3·05
51—60	338	23·47	91 & upwards	8	0·56

The low duration of life of Sovereigns will at once appear, if we compare the per centage proportion of deaths at the several decennial periods, as given in the preceding table, with similar results obtained in the case of the Aristocracy and Gentry of England. This comparison is made in the following table:—

TABLE IV.

Age.	Per centage of Deaths.		
	Sovereigns.	Aristocracy.	Gentry.
21—30	9·44	6·63	10·67
31—40	13·54	8·99	11·49
41—50	16·25	13·66	11·65
51—60	23·47	17·37	17·40
61—70	21·74	20·99	21·92
71—80	11·95	20·56	18·66
81—90	3·05	10·43	7·01
91 and upwards	0·56	1·36	1·18

Before proceeding to a more exact comparison of the several classes it will be more in accordance with the order adopted in the former Essays to determine the duration of life among Sovereigns at different periods of time. This is exhibited in the following table, in which, in consequence of the small number of facts at our command at those early periods, the first ten centuries are thrown into two groups of five each. The table must be understood to give the average ages attained by Sovereigns *born* at the several specified periods.

TABLE V.

	No. of Deaths.	Average Age.
First five centuries	45	52·02
From 6th to 10th century, inclusive.....	105	51·55
11th century	59	54·02
12th.....	85	53·01
13th.....	117	51·25
14th.....	121	53·15
15th.....	176	53·56
16th.....	236	54·27
17th.....	303	55·64
18th.....	193	57·86

These figures show a different result from those contained in the former Essays; inasmuch as from the 13th to the 18th century the value of life among Sovereigns has continually improved, whereas among the English Aristocracy and Gentry it exhibited marked fluctuations, being a minimum in the 14th century, a maximum during the first half of the 16th century, and showing a progressive and marked decline till the beginning of the 18th century. As the two orders of facts do not admit of exact comparison, either as to place or time, no advantage would arise from entering more minutely into the differences which they display; but if we take the foregoing table by itself, it must be allowed to furnish satisfactory evidence of a progres-

sive and steady improvement in the value of life among those whose longevity is so bound up with the welfare of nations and communities.

But though the duration of life among the modern race of Sovereigns is so much more favourable than it was in more remote periods, it is still very low as compared with other classes of the community, a result already established on the narrow basis of the average age of the Kings of England, but which I now proceed to deduce from more ample and sufficient data.

As a preliminary to a comparison of the several classes it will be necessary to determine the average duration of life of Sovereigns who have attained or passed the ages of 21, 31, 41, and 51 respectively. The exact numbers will be seen in the following table :—

TABLE VI.

	Age.	Average Age at Death.	Ducal and princely families.—(Casper.)
	21 and upwards	54·22	56
	26 "	55·56	57
	31 "	57·16	59
	41 "	60·90	63
	51 "	64·89	67

It must be obvious at a glance that this is by no means a favourable result. The average age in every case is unusually low; which will appear more distinctly from the subjoined comparison.

TABLE VII.

	Ages.	Sovereigns.	Kings of England.	Aristocracy.	Gentry.
	21 and upwards	54·22	....	65·31	67·59
	26 "	55·56	....	66·19	68·97
	31 "	57·16	59·19	67·31	70·22
	41 "	60·90	60·45	69·13	72·03
	51 "	64·89	64·12	71·69	74·00

On comparing the average age attained by the larger class of Sovereigns with that of the Kings of England, the slight difference existing between them, especially at the more advanced ages, arrests our attention, and would seem to justify the use of comparatively small numbers of facts for the purpose of establishing statistical probabilities. It was on the strength of the averages obtained from that small number of facts, that I ventured, in a former Essay to place Kings at the bottom of the sanatory scale, and the figures in the above table have fully warranted that somewhat rash proceeding.

It may, perhaps, be objected that the several columns of the above table do not admit of exact comparison, inasmuch as neither the periods embraced nor the countries inhabited by the several classes are the same. The last three columns refer exclusively to England, and to the interval between the 12th and first half of the 18th centuries, whereas the first column comprises men who have borne rule in every quarter of the world, and at every period of the Christian era. The first objection is easily disposed of, by instituting a strict comparison, both as to time and number of facts, between the class of Sovereigns and that of the

Aristocracy or Gentry of England. It will suffice to make this comparison in the case of the Aristocracy. In a former Essay a table was given showing the duration of life among the English Aristocracy at different periods. The number of deaths, which at the earlier periods was confessedly too small to furnish satisfactory results, was as follows: 13th century, 7 deaths; 14th century, 9 deaths; 15th century, 23 deaths; 16th century, 152 deaths; making a total of 191 deaths. In order to the strict comparison of which I have just spoken, I selected from the deaths occurring among Sovereigns in the 13th century, the first seven deaths, in the 14th century the first nine deaths, in the 15th century the first twenty-three deaths, and in the 16th century the first hundred and fifty-two deaths, so as to obtain 191 deaths, in either case distributed in equal proportions over the same interval of time. The average results obtained were:

Sovereigns	53·78 years
English Aristocracy	67·95 „
Difference in favour of the Aristocracy	14·17

The difference is here much too considerable to render any further comparisons necessary.

The second objection, that the two orders of facts are not strictly comparable, inasmuch as the class of Sovereigns comprises men who have borne rule in every country of the world, loses much of its force when we come to place side by side the averages obtained for the several countries. This is done in the following table, in which the average ages of Sovereigns who have borne rule in different countries, and at different periods, are given, together with the number of deaths upon which the average in the first column is based.

This table, which comprises the more important groups of Sovereigns and Sovereign Princes, furnishes a ready and conclusive answer to any objection founded on the different countries which have been admitted into the calculation. If we restrict our observation to the last column of the table, we shall see that the most favourable averages are obtained, in more than one instance, from Monarchs who do not belong to any of the races which at present bear rule in Europe. The Caliphs and Sultans of Aleppo, Damascus, and Egypt, and the Moors of Spain are among the most favourable averages, and rank with the Signors of Ferrara, the Dukes of Brunswick, the Counts of Maine, and the Emperors of Rome, while, on the other hand, the groups of least favourable averages comprise the Kings of Scotland, France, Denmark, Poland, and Wurtemberg, the Western Emperors, the Emperors of China and Japan, and the Sultans of Turkey.

It would appear, therefore, that the Sovereigns of remote countries, and different races, have contributed alike to increase and to diminish the average; and that there is no good reason to object to the wide field, both as to time and place, from which these facts have been gleaned.

If now we compare these several averages with the results already obtained, in the case of the Aristocracy and Gentry of England, we cannot avoid the conclusion, that Sovereigns, as a class, whatever the extent of their empire, or the degree of power they possess, are decidedly short-lived. The most favourable average is 70·50 years;

while the average for the English Aristocracy is 71·69, for the English Gentry 74·00, for the Learned Professions 73·62, for English Literature and Science 72·10, for the Army and Navy 71·99, and for the Professors of the Fine Arts 71·15.

TABLE VIII.

	No. of Deaths.	AGE.				
		21 and upwards.	26 and upwards.	31 and upwards.	41 and upwards.	51 and upwards.
Emperors of Rome	13	65·54	65·54	65·54	67·75	70·18
Eastern Emperors	28	53·39	55·73	60·68	63·35	66·82
Western Emperors	44	53·89	54·63	55·26	57·37	60·26
Caliphs	23	50·58	51·73	52·76	57·69	65·88
Caliphs and Sultans of Aleppo, Damascus, and Egypt	13	55·38	58·08	58·08	60·59	69·71
Sultans of Turkey	18	51·50	51·50	52·76	56·35	59·30
Emperors of China	64	46·26	48·15	50·86	56·95	60·28
„ Japan	16	48·06	51·57	53·23	55·91	60·62
Moors of Spain	21	62·76	62·76	62·76	67·11	68·12
Kings of England	21	59·19	59·19	59·19	60·45	64·12
„ Scotland	9	44·00	46·37	46·37	50·83	57·33
„ France	43	47·84	50·92	52·97	56·38	59·26
„ Spain	33	53·18	53·18	54·17	60·12	65·88
„ Portugal	24	56·33	56·33	56·33	60·90	63·63
Czars of Russia	18	50·17	53·44	53·44	59·33	61·90
Kings of Sweden	10	57·90	57·90	57·90	60·11	61·75
„ Denmark	16	55·81	55·81	55·81	56·86	60·82
„ Poland	12	59·17	59·17	59·17	59·17	60·73
„ Hungary	11	46·91	49·30	51·89	57·57	61·00
„ Bohemia	14	51·28	51·28	52·92	58·20	65·16
„ Bavaria	29	56·14	56·14	56·14	58·38	65·24
„ Saxony	18	54·50	54·50	57·94	59·73	63·83
Counts and Kings of Sicily	23	51·87	51·87	53·04	53·31	64·42
Counts and Dukes of Savoy	31	52·58	55·71	56·66	60·04	62·52
„ Wurttemberg	16	53·37	55·46	57·28	58·61	59·66
Dukes of Silesia	28	53·25	54·33	54·33	55·08	63·00
„ Brunswick	34	63·00	63·00	64·00	65·03	68·29
„ Holstein	41	56·58	58·33	59·10	62·79	65·21
„ Mecklenburg	19	57·68	57·68	57·68	60·23	63·14
„ Saxe Coburg, &c.	36	53·80	55·74	56·57	59·52	63·52
Margraves and Dukes of Baden	22	56·73	56·73	58·05	63·12	65·21
Landgraves and Dukes of Hesse Darmstadt, &c.	40	56·60	59·48	60·39	63·78	66·81
Counts and Princes of Anhalt	48	53·37	55·36	57·31	60·14	64·43
Counts of Maine	37	56·14	56·14	59·64	65·26	68·48
Dukes of Lorraine	15	53·36	55·71	60·25	60·25	64·55
Captains and Marquisses of Mantua	23	47·53	48·60	49·71	54·00	60·00
Signors of Ferrara	18	57·11	61·37	66·28	68·77	70·50

Whether then we form an average from a large number of facts, gleaned from a wide field of observation, or split up this single group into the smaller elements of which it consists, we arrive at the same conclusion, that Sovereigns, as a class, are among the shortest lived of human beings.

Since the foregoing observations were written, I have been favoured by my friend, Mr. Neison, with the following Life-Table for Sovereigns, calculated by means of the facts contained in Table I.

TABLE IX.
Expectation of Sovereigns.

Ages.	Expectation.	Ages.	Expectation.	Ages.	Expectation.
20	34·3484	48	16·1216	75	6·0489
21	33·6318	49	15·5570	76	5·7636
22	32·9112	50	15·0040	77	5·5253
23	32·1896	51	14·4621	78	5·3359
24	31·4696	52	13·9306	79	5·1958
25	30·7538	53	13·4133	80	5·1156
26	30·0439	54	12·9139	81	5·0729
27	29·3455	55	12·4367	82	5·0249
28	28·6553	56	11·9865	83	4·9611
29	27·9729	57	11·5693	84	4·8777
30	27·2924	58	11·1798	85	4·7433
31	26·6285	59	10·8121	86	4·5818
32	25·9654	60	10·4602	87	4·4199
33	25·3085	61	10·1172	88	4·2606
34	24·6595	62	9·7742	89	4·0976
35	24·0198	63	9·4340	90	3·9194
36	23·3976	64	9·1008	91	3·7074
37	22·7710	65	8·7788	92	3·4545
38	22·1603	66	8·4738	93	3·1620
39	21·5549	67	8·1935	94	2·8451
40	20·9609	68	7·9341	95	2·5114
41	20·3445	69	7·6900	96	2·1819
42	19·7316	70	7·4529	97	1·8617
43	19·1157	71	7·2097	98	1·5645
44	18·5002	72	6·9413	99	1·2368
45	17·8892	73	6·6530	100	·9000
46	17·2869	74	6·3517	101	·5000
47	16·6981				

This table, as might be anticipated, fully confirms the averages just adduced : to what extent will appear from the following comparison.

TABLE X.

Age.	Sovereigns.	Peerage and Baronetage.	Gentry.	Professions.
20	34·3	38·5	37·3	....
30	27·3	30·9	31·2	33·9
40	20·9	24·4	24·9	26·0
50	15·0	17·9	18·4	18·9
60	10·5	12·6	12·8	12·8

The expectation of life of Sovereigns, therefore, falls short by from two to four years of that of the English Aristocracy, and this, as has been already shown, is extremely low.

In order to display the true position of Sovereigns in the scale of longevity, I have added another table, in which some of the most favourable, and some of the least favourable results hitherto obtained, for the age of 30, are placed side by side. Such of the figures as are not contained in the *Essays on the Duration of Life among the Aristocracy and Gentry*, will be found in Mr. Neison's "*Contributions to Vital Statistics.*"

TABLE XI.

	Expectation of Life.
Agricultural Labourers (Benefit Societies)	40·6
Rural Districts ditto	38·4
Town Districts ditto	34·6
England (whole population)	34·1
Professions (chiefly Clergy)	33·9
Assured Lives (Amicable)	33·7
City Districts (Benefit Societies)	32·9
English Gentry	31·2
English Aristocracy	30·9
Clerks (Benefit Societies)	30·5
Liverpool (Benefit Societies)	30·1
Dundee (whole population)	29·1
Northampton Table (Price)	28·3
Sovereigns	27·3
Liverpool (whole population)	27·0
Glasgow ditto	24·9

Before concluding this paper, it may be necessary to repeat, that the averages in Table VIII., as in the other tables, have been calculated from data obtained from the "*Art de Vérifier les Dates.*" To have collated that work with approved histories of the several countries would have consumed more time than I had at my command, and the results would, probably, have differed very little from those which are here set forth.